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Jean Baptiste Bouillaud (1796-1881). A Pioneer in Cardiology and Neurology

BY

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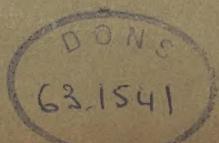


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Jean Baptiste Bouillaud (1796-1881). A Pioneer in Cardiology and Neurology.

By J. D. ROLLESTON, M.D.

ALTHOUGH ample justice has been done to him in France, where tributes were paid to him shortly after his death by Roger and Bergeron, and his memory has been kept alive within recent years by the articles of Lereboullet and Lutaud and Dejeant's thesis, Bouillaud is not so well known in this country as he deserves.

Bouillaud was one of the most distinguished physicians of the nineteenth century, not only in France, but in any other country, and though he cannot be ranked with Laennec, Bretonneau or Louis, he is nevertheless entitled to a high place among illustrious French physicians of all time, owing to his important contributions to cardiology and neurology.

Jean Baptiste Bouillaud was born on September 16, 1796, at Bragette, a hamlet near Angoulême, where his parents owned a tileworks. He received a good education at the Angoulême lycée, where he was awarded the *prix d'excellence*, or first prize in the school, as well as a prize for Latin verse. In those days a knowledge of Latin was more necessary for the young medical man aspiring to higher honours than it is to-day, as the thesis for the degree of *agrégé*, or assistant professor, had to be written in Latin, while the inaugural thesis appeared in French.

At the instigation and by the help of his uncle, a surgeon-major in the French army, to whose memory he subsequently dedicated his *Traité clinique des maladies du cœur* in 1835, he determined to make medicine his profession and left his native village for Paris in 1814. Unlike the young Troussseau, he does not appear to have had any surgical inclinations, as Roger relates that the sight of an operation in Richerand's wards at the Hôpital St. Louis made him beat a precipitate retreat. He had been in Paris only a short time when his studies were interrupted by the march on Paris of the Allies, whom he made an ineffective attempt with the students of the Ecole Polytechnique to withstand at the Barrière de Clichy. On the return from Elba of Napoleon, for whom he had a great admiration, he enlisted in a hussar regiment, but after the Corsican's final defeat he resumed his medical work in 1816.

Like Bretonneau and Velpeau, Bouillaud had, as a student, a hard fight with poverty, and was an inmate of the boarding house immortalized by Balzac in *Le Père Goriot* under the name of the Pension Vauquer, Bouillaud himself, as he subsequently told Lutaud, being the original of Horace Bianchon, who figures in many of Balzac's other novels. He studied under Dupuytren, attended him in his last illness, and by his special request performed the autopsy upon him. He was a fervent disciple of Broussais, upon whom he subsequently pronounced a eulogy on the inauguration of his statue, and like Laennec, assiduously attended Corvisart's lectures. He was also a pupil of Magendie, who inspired him with interest in physiological research. He became an interne in 1818, and qualified in 1823, the title of his inaugural thesis being, *Essai sur le diagnostic des anévrismes de l'aorte et spécialement sur les signes que fournit l'auscultation dans cette maladie*.

He commenced his professional career by being interne at the Hôpital Cochin to R. J. Bertin, senior physician to the hospital and professor of hygiene in the Paris faculty, and gave his chief valuable help in the preparation of his work on diseases of the heart which was published in 1824. He married the same year, and found his wife a useful assistant in his experiments on animals in connection with cerebral localization, to which he had been attracted by the study of Gall's work. After failing in company with Rousseau to attain the degree of *agrégé* in 1823, with a thesis entitled *Suntne medicamina proprie diaphoretica? diuretica? antispasmodica?* he was successful in 1826, the year of Laennec's death, with a thesis entitled *Suntne asthma et angina pectoris symptomatica? Suntne essentialia?* In 1825 he published a richly documented monograph under the title of *Traité clinique et physiologique de l'encéphalite ou inflammation du cerveau et de ses suites, telles que le ramollissement, la suppuration, les abcès, les tubercules, le squirrhe, le cancer, etc.* He contributed in the same year to the *Archives générales de médecine* 1825, VIII, 25, a paper entitled *Recherches cliniques propres à démontrer que la perte de la parole correspond à la lésion des lobules antérieurs du cerveau et à confirmer l'opinion de M. Gall sur le siège de l'organe du langage articulé.*

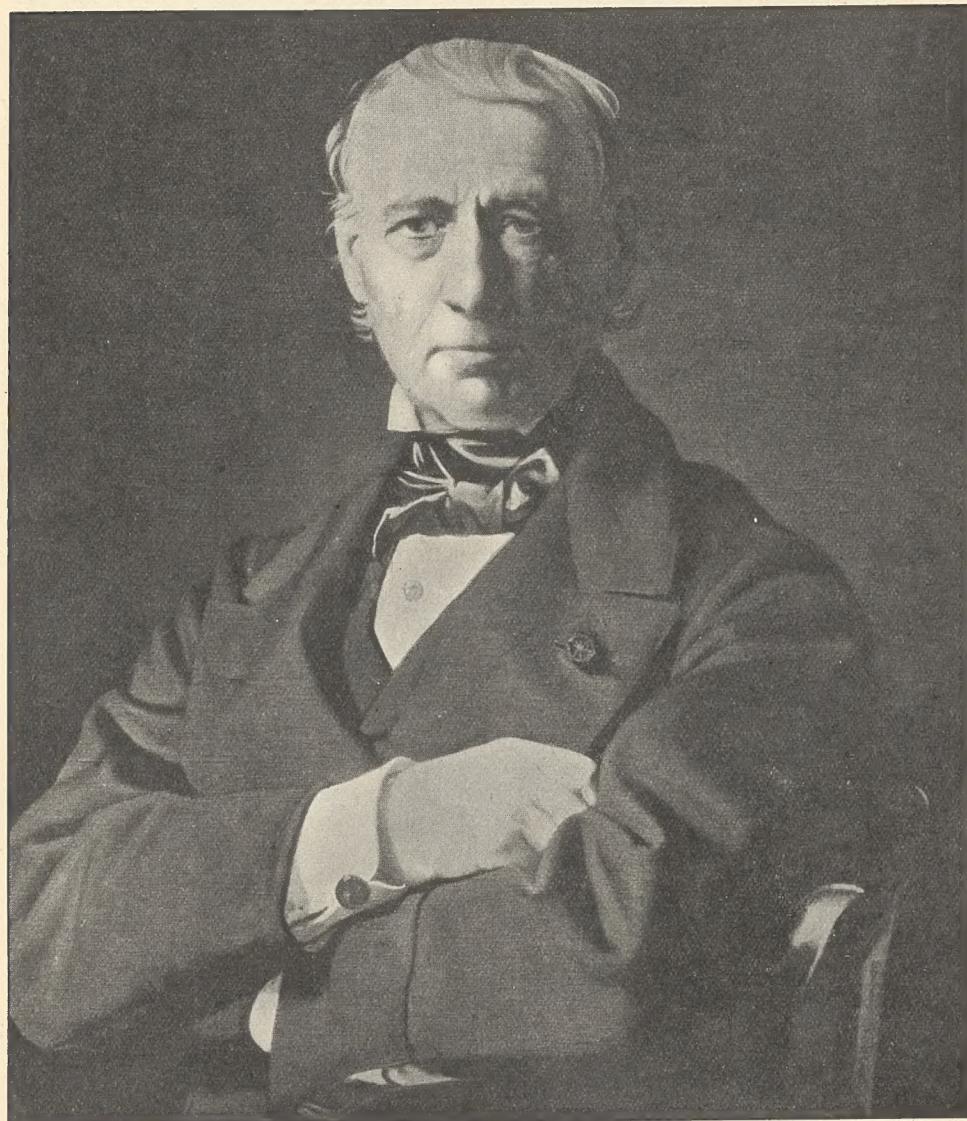
These publications established Bouillaud's reputation and secured his election to the Académie de Médecine in 1826 at the relatively early age of 30, and though, apparently owing to political reasons, he failed to obtain the chair of physiology in the Paris faculty, he was appointed in 1831 professor of clinical medicine in succession to Récamier. In the same year he had an opportunity of studying at the Hôpital de la Pitié, to which he had been appointed physician, the epidemic of cholera which was then prevalent in Paris, and in 1832 published his observations first in a contribution to the *Journal Universel hebdomadaire de médecine*, in which he recorded several cases whose recovery he attributed to local bleeding combined with cauterization of the spine, and later in the same year in a volume entitled *Traité pratique, théorique et statistique du cholera-morbus de Paris appuyé sur un grand nombre d'observations recueillies à l'Hôpital de la Pitié*, in which, like most of his contemporaries under the influence of Broussais, he vigorously denied the contagious nature of the disease.

He subsequently joined the staff of the Hôpital de la Charité, where his predecessors had been Corvisart and Laennec. In 1835 appeared the first edition of his *Traité clinique des maladies du cœur* which, according to Bergeron, is worthy to rank with Laennec's *Traité d'auscultation médiate*, and at all events formed an important landmark in the history of cardiology.

Bouillaud's subsequent works followed in quick succession. In 1836 he published his *Nouvelles recherches sur le rhumatisme articulaire aigu*, in which he first enunciated his famous "law of coincidence," to which reference will be made later, and in 1840 developed and confirmed the views expressed in this work in his *Traité clinique de rhumatisme articulaire et de la loi de coincidence des inflammations du cœur avec cette maladie*. In the interval between the two last-named works, he had published in 1837, in three volumes, his *Clinique médicale de l'Hôpital de la Charité ou exposition statistique des diverses maladies traitées à la clinique de cet hôpital*. The second and considerably enlarged edition of the *Traité des maladies du cœur* appeared in 1841. His last principal work, *Traité de nosographic médicale*, in five volumes, appeared in 1846, thirty-five years before his death, although he took an active part in the discussions at the Académie de Médecine and Académie des Sciences after his election in 1868 until the end of his life, and published some essays of a medico-philosophical nature in 1856.¹

His time was also fully occupied in other ways than by his literary activities and professorial duties. He rapidly acquired an enormous high-class practice,

¹ *Essai sur la philosophie médicale et sur les généralités de la clinique médicale*, and 1860, *Discours sur le vitalisme et l'organicisme et sur les rapports des sciences physiques en général avec la médecine*.



JEAN BAPTISTE BOUILLAUD.
Portrait by C. H. Lehmann, 1875.

numbering among his patients members of the royal family, including Napoleon III and celebrities such as Lamartine. Cardiac patients in particular came to him for relief, from all parts of France. In 1840 he was elected a member of the Chambre des Députés for Angoulême, but, like Troussseau, subsequently elected to the representation of Eure-et-Loire, he failed to prove a successful politician, and it was entirely due to his medical attainments that the following high distinctions were conferred upon him.

In 1848 he succeeded Orfila, the celebrated toxicologist, as Dean of the Paris faculty of medicine. In 1862 he was elected president of the Académie de Médecine, in 1867 president of the first international congress of medicine, which was held in Paris, and two years later president of honour of the Congress held in Florence. In 1868 he was made a Commander of the Legion of Honour and a member of the Institut de France in the section of medicine of the Académie des Sciences. In 1864 he resigned his chair of clinical medicine, but still continued to be a regular attendant at the meetings of the Académie de Médecine and Académie des Sciences, taking part in the discussions and sitting on committees for the awarding of the prizes offered by these two bodies. Until the last he was listened to with respect, although his utterances failed to inspire the same conviction as in the first half of the century. He was, indeed, guilty of a certain degree of misoneism, as is shown by the attitude which he first adopted to Pasteur,² though he subsequently acknowledged the value of his work,³ and by his criticism of the salicylát treatment of rheumatism introduced by Germain Sée in 1877, when he sceptically remarked that if M. Sée had discovered the secret of curing rheumatism in three days, he deserved to have statues erected in his honour.⁴ Lutaud relates that when a phonograph was first exhibited at the Institut, he remarked to his neighbour that one should be on one's guard against ventriloquists.

Roger states that Bouillaud was a hero-worshipper and as enthusiastic as he was sincere in his eulogies of his illustrious predecessors, as he showed in his addresses at the inauguration of the statues of Broussais, Bichat and Laennec, as well as at the funeral of Bretonneau, as I mentioned in my presidential address to this Section.

His interest in the welfare of the profession is shown by the fact that he allowed himself to be elected a vice-president of the newly-formed French Medical Association and was a constant attendant at its meetings.

In the notice of his death, which took place on October 29, 1881, the *Medical Times and Gazette*, 1881, ii, 616, paid him the following tribute:—

"So vigorous were both his mental and bodily powers, and so obedient did his remarkable memory continue that only a few weeks before his death, at a discussion on infectious diseases, he delivered in a clear and unfaltering voice a discourse of more than an hour's duration giving a retrospective view from remote antiquity as to the doctrines which had prevailed as to putridity in diseases."⁵

Like Troussseau fourteen years previously, Bouillaud left instructions that no speeches should be delivered over his grave, but four years after his death, his statue, the work of a sculptor named Verlet, was unveiled at Angoulême in the presence of several of his friends and pupils, including Velpeau, Laboulbène, Cornil and Potain, and his eulogy was pronounced in the Académie de Médecine in 1887 by Bergeron, who emphasized alike the importance of Bouillaud's work and the nobility of his character.

Bouillaud deserves to be remembered first and foremost for his contributions to cardiology, which was then in its infancy, and secondly, for his pioneer work on

² *Bull. Acad. de Méd.*, 1875, 2 sér., iv, 207, 336.

³ *Ibid.*, 1879, 2 sér., viii, 1154.

⁴ *Ibid.*, 1877, 2 sér., vi, 689.

⁵ The discourse referred to will be found in *Bull. Acad. de Méd.*, 1881, 3^e sér., x, 1116.

cerebral localization and the symptomatology of cerebellar disease. His contributions to cardiology may be summed up under the following six headings: (1) The first description of the endocardium and endocarditis; (2) his "law of coincidence"; (3) his accurate measurements of the heart; (4) the importance which he attached to auscultation of the heart; (5) his description of new physical signs; (6) his account of congenital cardiac disease.

(1) Bouillaud was the first to describe not only endocarditis but the endocardium itself. In the preface to the first edition of his *Traité des maladies du cœur*, 1835, vol. 1, p. 21, he says, "I have given the name of endocardium to the inner lining of this organ and that of endocarditis to its inflammation," and in the second edition (vol. 1, p. 21) he writes, "Although much neglected by anatomists this membrane is of the utmost importance for the physician. I give it the name of *endocardium* to distinguish it from the pericardium, which serves to denote the outer lining of the heart. A doctor, who will not object, I think, to my not mentioning his name, once combated the existence of endocarditis by the objection—according to him, admitting of no reply—that there is no endocardium. Pray Heaven that among the patients treated by this profound logician none has ever given a striking refutation of this supposedly incontrovertible argument."

I do not know who was the physician to whom Bouillaud alludes in this passage, but it is noteworthy that Laennec, whose work on cardiac disease is by general agreement far inferior to that on diseases of the lungs, stated⁶ that inflammation of the inner membrane of the heart and large vessels appeared to him to be very rare "notwithstanding the contrary opinion of some modern observers."

Trousseau, in the opening paragraph of his lecture on Addison's disease, suggested that the term "maladie de Bouillaud" should be given to endocarditis, "which was an almost unknown affection until the illustrious professor of the Hôpital de la Charité drew the attention of the medical world to it in a description to which nothing could be added." Although the term "Bouillaud's disease" is still defined in some English and German dictionaries in accordance with Trousseau's suggestion, in France nowadays it is used only as a synonym for rheumatic fever.

Bouillaud described two forms of endocarditis, viz., a simple form and a typhoid form, defining the latter as an endocarditis modified by its coincidence with a typhoid state and not an endocarditis which gives rise by itself to typhoid phenomena. He adds in a footnote that gangrenous endocarditis, of which he had seen a case, might be an example of this form of endocarditis.⁷ In his lecture on acute articular rheumatism and ulcerative endocarditis, Trousseau points out that this description of gangrenous endocarditis opened the way for Senhouse Kirkes, who in 1852 was the first to describe the embolic lesions connected with valvular disease of the heart.

(2) Bouillaud's celebrated "law of coincidence" was first formulated in his *Nouvelles recherches sur le rhumatisme*, 1836, as follows: "In the great majority of cases of acute generalized febrile articular rheumatism, there exists a variable degree of rheumatism of the fibrous tissue of the heart. This coincidence is the rule, and the non-coincidence the exception."

In the *Traité clinique du rhumatisme articulaire*, 1840, this law was still further elaborated and divided up into the two following parts:—

"(1) In severe acute generalized articular rheumatism the coincidence of endocarditis, pericarditis or endo-pericarditis is the rule, the law, and the non-coincidence the exception.

"(2) In mild acute, slight, partial, apyrexial rheumatism, the non-coincidence of endocarditis, pericarditis or endo-pericarditis is the rule, and the coincidence the exception."

⁶ "Treatment of Diseases of Chest and Medical Auscultation," English translation, 2nd ed., 1827, p. 643.

⁷ *Traité mal. du cœur*, 1841, ii, 304, 374.

The occasional association of rheumatism with heart disease, as Sir Humphry Rolleston, among others, has shown, had been previously noted by several British physicians such as David Pitcairn (1788), Edward Jenner (1789), Matthew Baillie (1797), David Dundas (1808) and Seudamore (1827), but the demonstration of the close connection between the two is admitted by numerous competent authorities both at home and abroad, such as A. G. Gibson, Stockman and Carey Coombs in this country, Troussseau, Widal, Enriquez and Weil, and Laubry and Routier in France, and Higler and Strümpell in Germany, to be due to Bouillaud. Widal, indeed, states that Bouillaud's doctrines appeared so revolutionary that many of his contemporaries were inclined to accuse him, as had been done in the case of Corvisart, of seeing heart disease everywhere.

Needless to say, both parts of Bouillaud's law require some modification. Most physicians to-day would, I suppose, be of the opinion of Troussseau, who expressed himself as follows in his lecture on acute articular rheumatism and ulcerative endocarditis:—

"No one more than myself is inclined to do justice to the important work of M. Bouillaud, but I must confess that an attentive study of the heart in a certain number of cases of acute articular rheumatism has not enabled me always to detect the signs of endocarditis, pericarditis or endo-pericarditis. . . . I believe therefore that M. Bouillaud's law is not so absolute as my learned colleague maintains, but I hasten to add that in a large number of cases I have been fortunate enough to recognize the truth of the law of coincidence which he has so well established."⁸

It is also probable, as Lereboullet has suggested, that salicylate treatment, by controlling the disease, has rendered the first part of the law less absolute.

The second part of the law requires still further modification in view of the frequent involvement of the heart in children suffering from a mild attack of acute articular rheumatism, and should, as Vaquez (1928) recommends, be reworded as follows: "In partial apyretic acute articular rheumatism the coincidence is frequent in children but rare in adults."

(3) The first accurate methods of weighing and measuring the heart are due to Bouillaud, who devotes nearly a hundred pages of the second edition of his treatise to a description of the anatomy of the heart. In the preface to the second edition (p. xiii) he claims that his work is the first to give any exact information about the anatomy and physiology of the heart, a claim substantiated many years later by Jaccoud, who maintained that Bouillaud's classical researches had created this department of topographical anatomy.

(4) Both Potain and Vaquez (1928) have emphasized the importance attached by Bouillaud to auscultation of the heart and its value in differentiation of the various valvular lesions. In this respect, Bouillaud showed a considerable advance on Laennec, who was inclined to discredit the value of auscultation in cardiac disease on the ground that the pathological sounds were inconsistent and indefinite, though the real reason was the ignorance which he shared with his contemporaries of the most elementary facts of physiology.

(5) We are indebted to Bouillaud for a description of certain physical signs connected with the cardio-vascular system, such as the *bruit de diable* or venous humming sound heard over the internal jugular vein, especially on the right side, in chlorosis, and so called from the sound resembling that produced by a humming-top called *diabolus*,⁹ the *bruit de rappel*, or false reduplication of the second sound heard at the apex and characteristic of mitral stenosis,¹⁰ and a tinkling sound sometimes heard on the right side of the apex beat in hypertrophy of the heart.¹¹

⁸ *Clinique médicale*, 1^{re} ed., iii, 417.

⁹ *Traité mal. du cœur*, 2^e ed., 1841, i, 236, 244.

¹⁰ *Ibid.*, ii, 215, 355.

¹¹ *Ibid.*, ii, 571.

As regards the semeiology of pericarditis, Bouillaud maintained that the *bruit de frottement* was of great diagnostic value and that it was characteristic of dry pericarditis.¹² He also held that permanent retraction of the praecordial region was a sign of adherent pericardium.¹³

According to Potain, the first description of gallop rhythm which Fraentzel attributed to Traube is really due to Bouillaud, who frequently used the term in the wards when Potain was his clerk (*externe de service*), though he made no mention of it in his writings.

Vaquez (1928) has shown that Bouillaud took up the study of cardiac arrhythmias almost at the point where Senac had left it nearly a hundred years previously. After quoting with approval Laennec's distinction of true and false intermittencies, Bouillaud described a new form of intermittency to which he gave the name of *faux pas du cœur*, meaning thereby a feeble beat of the heart which did not reach the pulse.¹⁴

Reference should also be made here to Bouillaud's vivid and poignant description of the patient's agony in mitral stenosis,¹⁵ which is worthy to rank with Rousseau's celebrated account of the last stage of laryngeal diphtheria.

(6) Bouillaud's treatise contains a description much fuller than any hitherto published of congenital cardiac disease, which he recognized as having two origins, viz., arrest of development, and foetal endocarditis. It is noteworthy in this connection that numerous references to Bouillaud's treatise will be found in Peacock's classical work on "Malformations of the Heart" (second edition, 1866), though, strange to say, no mention of his name appears in the index of authors quoted.

Bouillaud's interest in the circulatory system was not confined to the heart, but was extended to the peripheral vessels as well. I have already referred to his inaugural thesis on aortic aneurysm, published in 1823, when he also contributed to the *Archives générales de médecine*, 1823, ii, 188, a paper entitled *De l'oblitération des veines et de son influence sur la formation des hydropisies partielles. Considérations sur les hydropisies partielles en général*. In his clinical lecture on phlegmasia alba dolens, published many years later, Rousseau described this paper as the basis of all anatomical researches on venous obstruction made in France since 1823.

In 1838 we find Bouillaud making a report to the Académie de Médecine in the name of a committee composed of Velpeau, Gerdy, Blandin, Barthélémy, Adelon, Moreau and himself, on Amussat's experiments relating to the introduction of air into veins, and giving an account of the committee's own experiments relating to the subject on dogs, horses and a mule.¹⁶

Lastly, Bouillaud was the first to describe rheumatic phlebitis in his *Traité clinique du rhumatisme articulaire*, but, as Vaquez (1894) points out, he was also responsible for the existence of this condition being denied, as most of his cases were not really examples of acute rheumatism.

Bouillaud's second claim to be remembered rests on his pioneer work in neurology, particularly as regards his identifying the anterior lobes of the brain as the seat of speech, thus anticipating Broca by thirty-six years. A critical account of the history of cerebral localization will be found in the classical papers of Pierre Marie in the *Semaine Médicale*, the thesis of his pupil, F. Moutier, and Sir Henry Head's work on aphasia, which all emphasize the important part played by Bouillaud in this department of neurology. It is clear from their description that in spite of the

¹² *Ibid.*, i, 505.

¹³ *Ibid.*, i, 517.

¹⁴ *Traité mal. du cœur*, 1841, i, 167; *Nosographie médicale*, 1846, v, 325.

¹⁵ *Traité mal. du cœur*, 2^e éd., ii, 361-2.

¹⁶ *Bull. Acad. Roy. de Méd.*, 1837-38, ii, 182.

absurdities which his system contained and its lack of anatomical foundation, Gall is to be credited with being the pioneer in cerebral localization, as he maintained that the seat of articular speech was to be found in the convolutions of the posterior part of the orbital lobe.

Gall's doctrine of cerebral localization met with vigorous opposition from the first, particularly on the part of Flourens, who maintained that the brain had no influence either direct or indirect on the muscles. Bouillaud, however, at the commencement of his career was much impressed by the study of Gall's work, the first edition of which appeared in 1810-1819 and the second in an abridged form in 1822, and in 1825 read a paper before the Académie de Médecine,¹⁷ as I have already said. In this paper he described cases from his own experience and that of others, showing that patients who during life had suffered from loss of speech, on post-mortem examination showed lesions of the anterior lobes, whereas those with no disturbance of speech showed lesions in the middle and posterior lobes, while the anterior lobes remained intact. His main conclusions may be summarized as follows:—

(1) The brain in man plays an essential part in the mechanism of a great number of movements.

(2) The movements of the organs of speech, in particular, are governed by a special, distinct and independent cerebral centre, situated in the anterior lobes.

(3) Loss of speech does not involve loss of the movements of the tongue considered as an organ of prehension, mastication or deglutition of food, or of the sense of taste.

These views, which were also incorporated in his work on encephalitis published in 1825, were maintained by Bouillaud with great energy and persistency throughout his long and active career, particularly in discussions at the Académie de Médecine in 1839, 1848, 1864 and 1877, as well as the Académie des Sciences, in spite of vigorous opposition from his colleagues. Andral in particular stated that out of 37 cases observed by himself or others, with various lesions of the anterior lobes, there had been preservation of speech in 16, while in another 14 cases there had been abolition of speech without any changes being found in the anterior lobes post-mortem.

Some of my audience may remember the sensation caused a quarter of a century ago by Pierre Marie's contention that the third left frontal convolution does not play any special rôle in the function of speech, but the excitement caused by the discussions at the Académie de Médecine and elsewhere on cerebral localization was far greater in the middle of the nineteenth century, when, according to Marie, even political passions were involved, and belief in cerebral localization almost formed part of the republican creed.

Broca appears to have been at first incredulous as to the value of Bouillaud's researches, but was won over by Aubertin, Bouillaud's son-in-law, and at a meeting of the Société Anatomique de Paris in August, 1861, prefaced his remarks by saying that the case he was reporting confirmed Bouillaud's view as to the seat of the faculty of speech.

Although at first Bouillaud accepted Broca's support in a somewhat reluctant spirit, styling him "the St. Paul of the new doctrine" and alluding to him as one of the "organizers, subinventors, augmenters, revisers and correctors" of Gall's work,¹⁸ at a meeting of the Académie de Médecine many years later¹⁹ he generously acknowledged the value of Broca's discovery.

It may be noted in passing that though Bouillaud had a high and indeed

¹⁷ Subsequently published in *Archives générales de Médecine*, 1825, viii, 25.

¹⁸ *Bull. Acad. de Méd.*, 1864-5, xxx, 588.

¹⁹ *Ibid.*, 1877, 2 sér., xvi, 539.

exaggerated esteem for Gall, ranking him with Copernicus, Kepler and Newton,²⁰ he was not entirely blind to his errors, and as early as 1827 published two papers,²¹ in which he brought forward experimental and clinical evidence refuting Gall's opinions as to the functions of the cerebellum, viz., as an organ of the instinct of propagation, and indicating that it was the organ of equilibration, station and progression.

In his lecture on locomotor ataxy Troussseau claims for Bouillaud priority in the experimental and clinical study of lesions of the cerebellum on the ground that in 1828, and again in 1847, Bouillaud had shown that lesions of the cerebellum affected coördinate movements such as progression, station and equilibrium.

Bouillaud, however, was mistaken in maintaining²² that the description of progressive locomotor ataxy by Duchenne (de Boulogne) had been anticipated by himself, and Duchenne had no difficulty in proving that locomotor ataxy was a disease completely distinct, anatomically and clinically, from the condition described by Bouillaud as cerebellar ataxy.

In addition to his contributions to cardiology and neurology, Bouillaud is to be credited with having made an important advance in the study of acute articular rheumatism, so that the disease is still known in his own country as the "maladie de Bouillaud," although he included under the term rheumatism cases which would now be regarded as examples of tuberculous or suppurative arthritis. On the whole, it appears to be correct to say that prior to its histological study, inaugurated by Charcot, Bouillaud did more than any other observer in marking out the domain of acute articular rheumatism.

Barbier points out that for a long time after Baillou had differentiated rheumatism from gout at the end of the sixteenth century, rheumatism was still apt to be confused with a number of painful affections, and that various theories were prevalent as to the exact site of the disease. Bouillaud was the first to show the existence of the joint lesion, as well as to describe the close relation between the external manifestations and the visceral lesions.

Bouillaud's minor contributions to clinical medicine, as Lereboullet has pointed out, include his descriptions of albuminuria, due to cantharides, of slowing of the pulse in jaundice, which he attributed to the bile being carried into the circulation and acting on the heart like digitalis, and of the tympanitic sound heard on percutting the chest above a pleural effusion, which he described many years before Skoda, with whose name this sign is usually associated.

Paul Le Gendre, in his admirable study of Charles Bouchard, who at one time was Bouillaud's assistant at the Charité, has pointed out that while posterity honours Bouillaud mainly for being a pioneer in the study of rheumatic endo-pericarditis and the localization of aphasia, his contemporaries regarded him as the head of a school of medical philosophy, whose doctrines were set forth in his *Traité de Nosographie, Essai sur le Vitalisme et l'Organicisme*, and *Rapport des Sciences physiques avec la Médecine*.

Although he was a stalwart vitalist, Bouillaud is to be credited with being one of the first to emphasize the importance of chemistry and physics in medicine, in striking contrast with Troussseau who was inclined to depreciate the value of these studies.

The question now arises—how is it that Bouillaud's work which appears to have been so considerable, has been so much forgotten, except by his own countrymen? During his life-time Bouillaud does not seem to have received much appreciation in this country, if one may judge by the allusions to him in the contemporary textbooks. Sir Thomas Watson speaks of the *Traité des maladies de cœur* as "a heavy

²⁰ *Ibid.*, 1864-5, xxx, 588.

²¹ *Archives générales de Médecine*, xv, 64-91, 225-7

²² *Union Médicale*, 1859, n.s., 535, 585, 601.

but instructive work," and warns his students against the use of the lancet in pericarditis, as Bouillaud recommends. Peter Mere Latham suggests that Bouillaud's large and repeated bleedings were responsible for the numerous deaths from endocarditis which had never been fatal under his own milder treatment. In his *Treatise on the Continued Fevers of Great Britain* (second edition, 1873, p. 648), Murchison condemned Bouillaud's treatment of enteric fever, and attributed his supposed successes to fallacious statistics, and the anonymous writer of the obituary notice in the *Medical Times and Gazette*, already mentioned, did not hesitate to speak of Bouillaud's "combative disposition . . . determined and arrogant advocacy of doctrines which the advance of science was fast leaving in the background."

Barely a year after Bouillaud's death, Oliver Wendell Holmes in a farewell address to the Medical School of Harvard University on some of his early teachers, exclaimed in a tone recalling Villon's refrain, "Where now is the fame of Bouillaud, Professor and Deputy, the Sangrado of his time?"

The mention of Sangrado, the sanguinary physician in Lesage's *Gil Blas* (Lib. 11, C. 3), leads me to say a few words about Bouillaud's therapeutics. As a follower of Broussais, Bouillaud inflexibly maintained that all forms of inflammatory diseases, particularly heart affections, rheumatic fever and infectious diseases should be treated by bleeding, which to be of any avail should be repeated (*saignées coup sur coup*).

This treatment Bouillaud uncompromisingly continued throughout his long career, regardless of the fact that the method which at one time had been universally practised had been generally abandoned, as the result of the teaching of Marshall Hall in this country, Louis, Andral and Chomel in Paris, and Skoda in Vienna.

It is not unreasonable to suppose that the discredit into which this method of repeated and free venesection gradually fell, tended to blind the eyes of our countrymen to the real services which Bouillaud had rendered to medicine and, taken in conjunction with the abstract character of his discussions on medical philosophy, accounts for the oblivion into which his name and work have fallen.

I am indebted to Dr. H. G. Dejeant, of Paris, for a copy of the portrait of Bouillaud, by C. H. Lehmann, in 1875.

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